

**National Functional Guidelines Report #03**

Lab MITKEM(Mitkem Laboratories) SDG MF2B20 Case 43795 Contract EPW09039 Region 6 DDTID 183661 SOW ISM01.3

***Data Review Reports***

Blanks

| Blanks | ICP_AES  |
|--------|--|
| ND03   | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs. |
|        | PBW35  |
|        | Calcium PBW35  |
|        | Potassium PBW35  |
| Blanks | ICP_AES  |
| ND04   | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs. |
|        | PBW35, MF2B20, MF2B23, MF2B26, MF2B92, MF2B94, MF2B29, MF2B35, MF2B41, MF2B47, MF2B50, MF2B53, MF2B56, MF2B62, MF2B62D, MF2B83   |
|        | Calcium PBW35  |
|        | Potassium PBW35  |
|        | Manganese MF2B20 , MF2B23 , MF2B26 , MF2B92 , MF2B94 , MF2B29 , MF2B35 , MF2B41 , MF2B47 , MF2B50 , MF2B53 , MF2B56 , MF2B62 , MF2B62D , MF2B83  |
| Blanks | ICP_AES  |
| ND05   | The following samples have analyte results greater than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualify detected and nondetected analytes.   |
|        | LCS35, MF2B20, MF2B23, MF2B26, MF2B88, MF2B90, MF2B92, MF2B94, MF2B29, MF2B32, MF2B35, MF2B38, MF2B41, MF2B44, MF2B47, MF2B50, MF2B53, MF2B56, MF2B62, MF2B62D, MF2B62L, MF2B83  |
|        | Calcium LCS35 , MF2B20 , MF2B23 , MF2B26 , MF2B88 , MF2B90 , MF2B92 , MF2B94 , MF2B29 , MF2B32 , MF2B35 , MF2B38 , MF2B41 , MF2B44 , MF2B47 , MF2B50 , MF2B53 , MF2B56 , MF2B59 , MF2B62 , MF2B62D , MF2B62L , MF2B83  |
|        | Potassium LCS35 , MF2B20 , MF2B23 , MF2B26 , MF2B88 , MF2B90 , MF2B92 , MF2B94 , MF2B29 , MF2B32 , MF2B35 , MF2B38 , MF2B41 , MF2B44 , MF2B47 , MF2B50 , MF2B53 , MF2B56 , MF2B59 , MF2B62 , MF2B62D , MF2B62L , MF2B83  |
| Blanks | ICP_AES  |
| ND06   | The following samples have analyte results greater than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualify detected and nondetected analytes.   |
|        | LCS35, MF2B90, MF2B92, MF2B94, MF2B35, MF2B38, MF2B41, MF2B50, MF2B53, MF2B56, MF2B59, MF2B83, MF2B88, MF2B20, MF2B23, MF2B26, MF2B29, MF2B32, MF2B44, MF2B47, MF2B62, MF2B62D, MF2B62L, MF2B62S   |
|        | Sodium LCS35 , MF2B90 , MF2B92 , MF2B94 , MF2B35 , MF2B38 , MF2B41 , MF2B50 , MF2B53 , MF2B56 , MF2B59 , MF2B83 , MF2B88   |
|        | Calcium LCS35 , MF2B20 , MF2B23 , MF2B26 , MF2B88 , MF2B90 , MF2B92 , MF2B94 , MF2B29 , MF2B32 , MF2B35 , MF2B38 , MF2B41 , MF2B44 , MF2B47 , MF2B50 , MF2B53 , MF2B56 , MF2B59 , MF2B62 , MF2B62D , MF2B62L , MF2B83  |
|        | Potassium LCS35 , MF2B20 , MF2B23 , MF2B26 , MF2B88 , MF2B90 , MF2B92 , MF2B94 , MF2B29 , MF2B32 , MF2B35 , MF2B38 , MF2B41 , MF2B44 , MF2B47 , MF2B50 , MF2B53 , MF2B56 , MF2B59 , MF2B62 , MF2B62D , MF2B62L , MF2B83  |
|        | Manganese LCS35 , MF2B53 , MF2B56 , MF2B62S  |
| Blanks | ICP_AES  |
| NE05   | The following samples have analyte results greater than CRQLs. The associated preparation blank analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualify detected and nondetected analytes.   |

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Blanks

| Blanks | ICP_AES   |
|--------|---|
|        | LCS35, MF2B20, MF2B23, MF2B26, MF2B88, MF2B90, MF2B92, MF2B94, MF2B29, MF2B32, MF2B35, MF2B38, MF2B41, MF2B44, MF2B47, MF2B50, MF2B53, MF2B56, MF2B59, MF2B62, MF2B62D, MF2B62L, MF2B83           |
|        | Calcium LCS35, MF2B20, MF2B23, MF2B26, MF2B88, MF2B90, MF2B92, MF2B94, MF2B29, MF2B32, MF2B35, MF2B38, MF2B41, MF2B44, MF2B47, MF2B50, MF2B53, MF2B56, MF2B59, MF2B62, MF2B62D, MF2B62L, MF2B83   |
|        | Potassium LCS35, MF2B20, MF2B23, MF2B88, MF2B90, MF2B92, MF2B26, MF2B29, MF2B32, MF2B35, MF2B38, MF2B94, MF2B41, MF2B44, MF2B47, MF2B50, MF2B53, MF2B56, MF2B59, MF2B62, MF2B62D, MF2B62L, MF2B83 |

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**Data Review Reports**

Blanks

| Blanks | <b>ICP_MS</b>   |
|--------|---|
| ND03   | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs.<br>MF2B20, MF2B26, MF2B35, MF2B47, PBW33, MF2B50, MF2B53, MF2B62, MF2B62S, MF2B23, MF2B29, MF2B88, MF2B90, MF2B92, MF2B94, MF2B59, MF2B62D, MF2B32, MF2B38, MF2B83, MF2B41, MF2B44, MF2B56 |
|        | Vanadium MF2B20 , MF2B26 , MF2B35 , MF2B47 , PBW33 , MF2B50 , MF2B53  |
|        | Arsenic MF2B20 , MF2B62 , MF2B62S , MF2B23 , MF2B29 , MF2B88 , MF2B90 , MF2B92 , MF2B94 , MF2B59  |
|        | Chromium MF2B35 , MF2B90  |
|        | Barium MF2B20 , MF2B62 , MF2B62D , MF2B23 , MF2B26 , MF2B29 , MF2B32 , MF2B35 , MF2B38 , MF2B83 , MF2B88 , MF2B90 , MF2B41 , MF2B44 , MF2B92 , MF2B94 , MF2B53 , MF2B56 , MF2B59  |
|        | Beryllium MF2B62S   |
|        | Antimony MF2B62S  |
|        | Thallium MF2B62S  |
|        | Cadmium MF2B62S   |
|        | Lead MF2B62S  |
| Blanks | <b>ICP_MS</b>   |
| ND04   | The following samples have analyte results greater than or equal to MDLs but less than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated at CRQLs.<br>MF2B20, MF2B26, MF2B35, MF2B47, PBW33, MF2B50, MF2B53, MF2B59, MF2B83, MF2B88, MF2B90, MF2B38, MF2B41, MF2B44, MF2B92, MF2B94, MF2B56, MF2B62, MF2B62D, MF2B23, MF2B29, MF2B32, MF2B62S |
|        | Vanadium MF2B20 , MF2B26 , MF2B35 , MF2B47 , PBW33 , MF2B50 , MF2B53  |
|        | Selenium MF2B59 , MF2B35 , MF2B83 , MF2B88 , MF2B90 , MF2B38 , MF2B41 , MF2B44 , MF2B50 , MF2B92 , MF2B94 , MF2B53 , MF2B56   |
|        | Arsenic MF2B88 , MF2B90 , MF2B92 , MF2B94 , MF2B59  |
|        | Chromium MF2B35 , MF2B90  |
|        | Barium MF2B20 , MF2B59 , MF2B62 , MF2B62D , MF2B23 , MF2B26 , MF2B29 , MF2B32 , MF2B35 , MF2B38 , MF2B83 , MF2B88 , MF2B90 , MF2B41 , MF2B44 , MF2B92 , MF2B94 , MF2B53 , MF2B56  |
|        | Beryllium MF2B62S   |
|        | Antimony MF2B62S  |
|        | Thallium MF2B62S  |
|        | Cadmium MF2B62S   |
|        | Copper MF2B59 , MF2B35 , MF2B83 , MF2B88 , MF2B90 , MF2B38 , MF2B41 , MF2B44 , MF2B50 , MF2B92 , MF2B94 , MF2B53 , MF2B56   |
|        | Silver MF2B62S  |

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Blanks

| Blanks | ICP_MS   |
|--------|--|
|        | Lead MF2B62S   |
| Blanks | ICP_MS   |
| ND05   | The following samples have analyte results greater than CRQLs. The associated ICB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes. |
|        | LCS33, MF2B62S, MF2B62A  |
|        | Vanadium LCS33 , MF2B62S   |
|        | Arsenic LCS33  |
|        | Chromium LCS33 , MF2B62S   |
|        | Cobalt LCS33 , MF2B62S   |
|        | Barium LCS33 , MF2B62A , MF2B62S   |
|        | Beryllium LCS33  |
|        | Antimony LCS33 , MF2B62A   |
|        | Thallium LCS33   |
|        | Cadmium LCS33  |
|        | Lead LCS33   |
| Blanks | ICP_MS   |
| ND06   | The following samples have analyte results greater than CRQLs. The associated CCB analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualified detected and nondetected analytes. |
|        | LCS33, MF2B20, MF2B26, MF2B62S, MF2B35, MF2B47, MF2B50, MF2B53, MF2B90, MF2B59, MF2B62, MF2B62A, MF2B62D, MF2B23, MF2B29, MF2B32, MF2B83, MF2B88, MF2B38, MF2B41, MF2B44, MF2B92, MF2B94, MF2B56   |
|        | Vanadium LCS33 , MF2B20 , MF2B26 , MF2B62S , MF2B35 , MF2B47 , MF2B50 , MF2B53   |
|        | Chromium LCS33 , MF2B62S , MF2B35 , MF2B90   |
|        | Cobalt LCS33 , MF2B62S   |
|        | Barium LCS33 , MF2B20 , MF2B59 , MF2B62 , MF2B62A , MF2B62D , MF2B62S , MF2B23 , MF2B26 , MF2B29 , MF2B32 , MF2B35 , MF2B83 , MF2B88 , MF2B90 , MF2B38 , MF2B41 , MF2B44 , MF2B92 , MF2B94 , MF2B53 , MF2B56                                   |
|        | Beryllium LCS33 , MF2B62S  |
|        | Antimony LCS33 , MF2B62A , MF2B62S   |
|        | Thallium LCS33 , MF2B62S   |
|        | Cadmium LCS33 , MF2B62S  |
|        | Silver LCS33 , MF2B62S   |

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Blanks

| Blanks | ICP_MS   |
|--------|--|
|        | Lead LCS33 , MF2B62S   |
| Blanks | ICP_MS   |
| NE04   | The following samples have analyte results greater than or equal to MDLs but less than or equal to CRQLs. The associated preparation blank analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Detected analytes are qualified U. Nondetected analytes are not qualified. Sample results are elevated to CRQLs. |
|        | MF2B20, MF2B26, MF2B35, MF2B47, MF2B50, MF2B53   |
| Blanks | ICP_MS   |
| NE05   | The following samples have analyte results greater than CRQLs. The associated preparation blank analyte results are greater than or equal to MDLs but less than or equal to CRQLs. Use professional judgment to qualify detected and nondetected analytes.   |
|        | LCS33, MF2B62S   |
|        | Vanadium LCS33 , MF2B62S   |

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#### Detection Limit

| Detection Limit | ICP_AES   |
|-----------------|---|
| NDL1            | The following samples have results greater than or equal to MDLs but less than CRQLs. Detected analytes are qualified J.                        |
|                 | PBW35, MF2B20, MF2B23, MF2B26, MF2B35, MF2B41, MF2B47, MF2B53, MF2B56, MF2B62, MF2B62D, MF2B83, MF2B92, MF2B94, MF2B29, MF2B50                  |
|                 | Calcium PBW35   |
|                 | Aluminum MF2B20 , MF2B23 , MF2B26 , MF2B35 , MF2B41 , MF2B47 , MF2B53 , MF2B56 , MF2B62 , MF2B62D , MF2B83                                      |
|                 | Potassium PBW35   |
|                 | Manganese MF2B20 , MF2B23 , MF2B92 , MF2B94 , MF2B26 , MF2B29 , MF2B35 , MF2B41 , MF2B47 , MF2B50 , MF2B53 , MF2B56 , MF2B62 , MF2B62D , MF2B83 |

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Detection Limit

| Detection Limit | ICP_MS  |
|-----------------|---|
| NDL1            | The following samples have results greater than or equal to MDLs but less than CRQLs. Detected analytes are qualified J.<br>MF2B20, MF2B26, MF2B35, MF2B47, PBW33, MF2B50, MF2B53, MF2B59, MF2B62, MF2B23, MF2B62S, MF2B29, MF2B88, MF2B90, MF2B92, MF2B94, MF2B62D, MF2B32, MF2B83, MF2B38, MF2B41, MF2B44, MF2B56 |
|                 | Vanadium MF2B20 , MF2B26 , MF2B35 , MF2B47 , PBW33 , MF2B50 , MF2B53  |
|                 | Arsenic MF2B59 , MF2B62 , MF2B20 , MF2B23 , MF2B62S , MF2B29 , MF2B88 , MF2B90 , MF2B92 , MF2B94  |
|                 | Chromium MF2B35 , MF2B90  |
|                 | Copper MF2B59 , MF2B62 , MF2B62D , MF2B20 , MF2B23 , MF2B26 , MF2B29 , MF2B32 , MF2B35 , MF2B83 , MF2B88 , MF2B38 , MF2B41 , MF2B44 , MF2B47 , MF2B90 , MF2B94 , MF2B50 , MF2B53 , MF2B56   |
|                 | Lead MF2B62S  |
|                 | Selenium MF2B59 , MF2B62 , MF2B62D , MF2B20 , MF2B23 , MF2B26 , MF2B62S , MF2B29 , MF2B32 , MF2B35 , MF2B83 , MF2B88 , MF2B38 , MF2B41 , MF2B44 , MF2B47 , MF2B90 , MF2B92 , MF2B94 , MF2B50 , MF2B53 , MF2B56  |
|                 | Barium MF2B59 , MF2B62 , MF2B62D , MF2B20 , MF2B23 , MF2B26 , MF2B29 , MF2B32 , MF2B35 , MF2B83 , MF2B88 , MF2B38 , MF2B41 , MF2B44 , MF2B90 , MF2B92 , MF2B94 , MF2B53 , MF2B56  |
|                 | Zinc MF2B47   |
|                 | Beryllium MF2B62S   |
|                 | Antimony MF2B62S  |
|                 | Cadmium MF2B62S   |
|                 | Thallium MF2B62S  |
|                 | Silver MF2B62S  |

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Holding Times/Preservation

| Holding Times/Preservation | Hg  |
|----------------------------|---|
| NHT01                      | The following preserved samples are improperly maintained at temperatures outside the range of 4+/-2 C. Detected analytes with results greater than or equal to MDLs are qualified J-. Use professional judgment to qualify the nondetected analytes. |
|                            | MF2B41, MF2B83, MF2B88, MF2B90, MF2B92, MF2B94  |

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Holding Times/Preservation

| Holding Times/Preservation | ICP_AES   |
|----------------------------|---|
| NHT01                      | The following preserved samples are improperly maintained at temperatures outside the range of 4+/-2 C. Detected analytes with results greater than or equal to MDLs are qualified J-. Use professional judgment to qualify the nondetected analytes. |
|                            | MF2B90, MF2B92, MF2B94, MF2B41, MF2B83, MF2B88  |

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Holding Times/Preservation

| Holding Times/Preservation | ICP_MS  |
|----------------------------|---|
| NHT01                      | The following preserved samples are improperly maintained at temperatures outside the range of 4+/-2 C. Detected analytes with results greater than or equal to MDLs are qualified J-. Use professional judgment to qualify the nondetected analytes. |
|                            | MF2B83, MF2B88, MF2B90, MF2B41, MF2B92, MF2B94  |

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Matrix Spikes

| Matrix Spikes | Hg   |
|---------------|--|
| NG090         | The following Matrix Spike samples have percent recoveries in the range of 30-74%. Detected analytes with results greater than or equal to MDLs are qualified J-. Nondetected analytes are qualified UJ. |
|               | MF2B20, MF2B23, MF2B26, MF2B29, MF2B32, MF2B35, MF2B38, MF2B41, MF2B44, MF2B47, MF2B50, MF2B53, MF2B56, MF2B59, MF2B62, MF2B83, MF2B88, MF2B90, MF2B92, MF2B94   |
|               | Mercury MF2B62S  |

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#### Matrix Spikes

| Matrix Spikes | ICP_MS  |
|---------------|---|
| NG11          | The following Matrix Spike samples have percent recoveries in the range of 30-74% and post-digestion spike samples have percent recoveries greater than or equal to 75%. Detected analytes with results greater than or equal to MDLs are qualified J. Nondetected analytes are qualified UJ. |
|               | MF2B20, MF2B23, MF2B26, MF2B29, MF2B32, MF2B35, MF2B38, MF2B41, MF2B44, MF2B47, MF2B50, MF2B53, MF2B56, MF2B59, MF2B62, MF2B83, MF2B88, MF2B90, MF2B92, MF2B94  |
|               | Barium MF2B62S  |
|               | Antimony MF2B62S  |

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Serial Dilution

| Serial Dilution | ICP_AES  |
|-----------------|--|
| NL031           | The following ICP-AES Serial Dilution (SD) samples have percent difference (%D) greater than 10% and initial sample results are greater than 50xMDLs. The detected analytes in samples with results greater than or equal to MDLs are qualified J. Nondetected analytes in samples are qualified UJ. |
|                 | MF2B20, MF2B23, MF2B26, MF2B29, MF2B32, MF2B35, MF2B38, MF2B41, MF2B44, MF2B47, MF2B50, MF2B53, MF2B56, MF2B59, MF2B62, MF2B83, MF2B88, MF2B90, MF2B92, MF2B94   |
|                 | Calcium MF2B62L  |
|                 | Potassium MF2B62L  |